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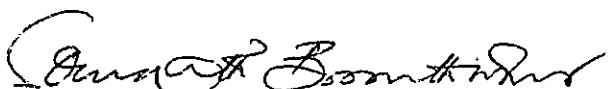
ROY F. WESTON, INC.
Lionville LaboratoryCLIENT: WESTINGHOUSE HANFORD
RFW #: 9110L057
W.O. #: 6168-02-01-0000

SAMPLES RECEIVED: 10-18-91

INORGANIC NARRATIVE

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

1. All sample holding times as required by 40CFR136 were met for water samples.
2. All preparation blank results were below the required detection limit.
3. All calibration verification checks were within the required control limits of 90-110%. Calibration verification is performed using independent standards.
4. Matrix spike recoveries are summarized on the Inorganic Accuracy Report contained within this document. All recoveries were within the 75-125% guidance limit. All %RPD were within the 20% guidance limit.
5. Replicate results are summarized on the Inorganic Precision Report contained within this document. All results were within the 20% RPD guidance limit.
6. The analytical methods applied by the laboratory, unless otherwise requested, for all inorganic analyses are derived from the USEPA Method for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020) and Standard Methods for the Examination of Water and Wastewater 16 ed. Methods for the analysis of solid samples are derived from Test Methods for Evaluating Solid Waste (USEPA SW846).


Jack R. Tuschall, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

10.28.91.
Date

ROY F. WESTON INC.

INORGANICS DATA SUMMARY REPORT 10/28/91

CLIENT: WESTINGHOUSE HANFORD
WORK ORDER: 6168-02-01-0000

WESTON BATCH #: 9110L057

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT
=====	=====	=====	=====	=====	=====
-001	BO15C8	Total Organic Carbon	0.75	MG/L	0.50
-002	BO15C9	Total Organic Carbon	1.3	MG/L	0.50
-003	BO15D0	Total Organic Carbon	0.50 u	MG/L	0.50
-004	BO15D1	Total Organic Carbon	1.3	MG/L	0.50

RECORD OF DISPOSITION

Project 91-058

DATE: 11/1/91

LABORATORY: TMA

ROD - 91 - 00004

SAMPLE IDENTIFICATION NUMBERS

BO15C9

DISPOSITION OF SAMPLES



CANCELLED (REASON)

SAMPLE BOTTLE FOR FILTERED METALS NOT LABELED WITH A SAMPLE NUMBER. CANCEL THE FILTERED METALS ANALYSIS ON THIS SAMPLE, PER STEVE WEISS.

NCK BO6145



DAMAGED SAMPLE CONTAINER. ANALYSIS CANCELLED



BROKEN GLASS CONTAMINATING SAMPLE. ANALYSIS CANCELLED



OTHER

APPROVED

Samuel L. Edwards
PROJECT COORDINATOR

11/1/91
DATE

Steve S. Weiss
TECHNICAL REPRESENTATIVE

11/5/91
DATE



Westinghouse
Hanford Company

Hanford Operations and Engineering Contractor
for the US Department of Energy
P.O. Box 1370 Richland, Wa. 99362

NONCONFORMANCE REPORT

Page 1 of 3 ^{SW} No. B 06145

1. MFR/ORG

ITEM/MATERIAL NAME Envir. Sample

PART NO. N/A

DRAWING/SPEC. NO.

REV. N/A

PROGRAM/PROJECT 100 AREA SPRINGS

P.O.W.O. NO.

UNUSUAL OCCURRENCE
REPORT REQUIRED

☐ YES

☒ NO

SYSTEM/END USE

DATE 11/1/91

2. DESCRIPTION OF NONCONFORMANCE

- SAMPLE B015C9

- SAMPLE BOTTLE FOR FILTERED METALS
WAS NOT MARKED WITH A SAMPLE
NUMBER.

3. REQUIREMENT VIOLATED

DOCUMENT

REV

ZONE/PAR

DL Edwards
ORIGINATOR

28600
ORGANIZATION

11/1/91
DATE

4. ASME CODE ITEM(s)

☐ NO

☐ YES. NOTIFY AUTHORIZED INSPECTOR.

WHC
QAR

5. CAUSE OF NONCONFORMANCE

☐ PROCEDURES

☒ PERSONNEL

☐ MATERIALS

☐ EQUIPMENT

☐ OTHERS

REMARKS: Sample bottle not traceable to correct sample
because bottle not adequately marked by field personnel. This
was not caught in the chain of custody transfer because the large
number of bottles in each cooler. Encl SW

6. CORRECTIVE ACTION TO ELIMINATE CAUSE

On future spring sampling projects, field personnel will
state that in transferring possession, each bottle or jar will
have documented verification during first transfer

INITIATION DATE

SERIAL NO.

Steve Weiss
RESPONSIBLE ORG. REP.

Senior Scientist
TITLE

03/13/92
DATE

7. RECOMMENDED DISPOSITION

☒ ACCEPT

☐ REJECT

☐ REPAIR

☐ REWORK

☐ OTHER

8A. DISPOSITION JUSTIFICATION AND INSTRUCTIONS

- CANCEL THE ANALYSIS ON THE FILTERED METALS, PER
ATTACHED ROD SENT TO THE LAB. STEVE WEISS

Analysis of filtered metals for this sample can be stopped because of the
adequate number of other samples taken. No additional sampling required.

9. ADDITIONAL REVIEWS REQUIRED

(WHC ONLY)

☐ YES

☐ NO

IF YES, IDENTIFY:

8B. SUPPLIER ENG.

SUPPLIER QA

10. DISPOSITION APPROVAL (WHC ONLY)

☒ APPROVED

☐ DISAPPROVED

☐ OTHER (SEE CONTINUATION SHEET)

S. WEISS SC Weiss 03/13/92
COGNIZANT ENGINEER DATE

PT WILKINSON ma Thompson
COGNIZANT QA ENGINEER 1/27/92 3-18-92 DATE

AUTHORIZED INSPECTOR REVIEW

DATE

11. ADDITIONAL APPROVALS

NAME

TITLE

DATE

NAME

TITLE

DATE

12. DISPOSITION ACTION COMPLETE

NA 3-18-92
NAME DATE

QTY. ACCEPT NA

QTY. REJ. NA

FOLLOW ON NCR

QA LOG NO.

The issuance and acceptance of this request in no way limits or affects the warranty provisions of the order.

EGM-97-010

FOLLOW UP

91104057

Custody Transfer Record/Lab Work Request

Client <u>Westing House HANFORD</u>						Refrigerator # _____											
Est. Final Proj. Sampling Date <u>6-68-02-01-0000</u> <u>6-16-7-02-01-0000</u>						#/Type Container	Liquid Solid										
Work Order # <u>10-91-11</u>						Volume	Liquid Solid	<u>15ml</u>									
Project Contact/Phone # <u>Steve Weiss (509) 376-1683</u>						Preservatives											
AD Project Manager <u>Diana Thomas Jonick</u>						ANALYSES REQUESTED →		ORGANIC				INORG					
QC <u>CLP</u> Del <u>CLP</u> TAT <u>25 days</u>						VOA	BNA	Pest/ PCB	Herb					Metal	CN		
Date Rec'd <u>10-18-91</u> Date Due <u>11-22-91</u>																	
Account # <u>WS-HANFORD</u>																	
MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓)		Matrix	Date Collected	Time Collected	WESTON Analytics Use Only									
			MS	MSD													
	001	B015C8			W	10-15-91											
	002	B015C9			I	I											
	003	B015D0															
	004	B015D1															
Radio info to follow																	
FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS						DATE/REVISIONS:						WESTON Analytics Use Only					
Special Instructions: <u>Project # 91-058</u> <u>MS/MSD Required on Each Batch & each Matrix</u>						<u>10-21-91</u> 1. Correct w.o. # & P.M Name June King _____ _____ 2. _____ _____ 3. _____ _____ 4. _____ _____ 5. _____ _____ 6. _____						Samples were: 1) Shipped ✓ or Hand Delivered Airbill # <u>247425299</u> 2) Ambient or Chilled 3) Received in Good Condition (Y) or N 4) Labels Indicate Properly Preserved (Y) or N 5) Received Within Holding Times (Y) or N COC Tape was: 1) Present on Outer Package (Y) or N 2) Unbroken on Outer Package (Y) or N 3) Present on Sample (Y) or N 4) Unbroken on Sample (Y) or N COC Record Present Upon Sample Rec't (Y) or N <u>NO WESTON C.</u>					
Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time	Discrepancies Between Samples Labels and COC Record? Y or N (N) NOTES:									
Emery	J. K. King	10-18-91	12:50														

Custody Form Initiator Richard Mahood
Company Contact Steve Weiss Telephone 509/376-1683
Project Designation/Sampling Locations 100 N springs Area NS-4, NS-11 Collection Date 10/15/91
OSM Project No. 91-058
Ice Chest No. IT 39 Field Logbook No. 199806.121.02
Bill of Lading/Airbill No. 247 425 299 0 Offsite Property No. W92-0-0002 #7
Method of Shipment _____
Shipped to Weston Analytical 208 Welsh Pool Rd, Lionville, PA 19341
Possible Sample Hazards/Remarks NONE expected

Sample Identification

B015C8 - 1x 250 ml H₂O
B015C9 1x 250 ml H₂O
B015D0 1x 250 ml H₂O
B015D1 1x 250 ml H₂O

Field Transfer of Custody		CHAIN OF POSSESSION	(Sign and Print Names)
Relinquished by: <u>Richard Mahood</u>	Received by: <u>John Olson</u>	Date/Time: <u>10-17-91</u>	<u>CSOC</u>
Relinquished by: <u>[Signature]</u>	Received by: <u>Emery</u>	Date/Time:	
Relinquished by: <u>Emery</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10-18-91 12:50</u>	
Relinquished by:	Received by:	Date/Time:	

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:
Comments:		

OSM RCRA DATA ASSESSMENT

DATE 1/29/92 *md!* SAMPLES/MATRIX B015C8
 REVIEWED BY Mark O. Beck B015C9
 LABORATORY Weston B015D0
 CASE # 100 Area Springs B015D1
 SDG # KFW# 9110L057

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	Total organic carbon		
1. <u>Holding times</u>		<u>0</u>		
2. <u>Matrix Spike</u>		<u>0</u>		
3. <u>Blanks</u>		<u>0</u>		
4. <u>Duplicates</u>		<u>0</u>		
5. <u>Calibrations</u>		<u>0</u>		
6. <u>Other.</u>		<u>0</u>		
7. _____				
8. _____				
9. _____				
10. _____				

0 = data had no problems
 X = minor problems, data may be qualified
 M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSMENT: The data are acceptable without any qualifiers.

NOTES: _____

o Refer to the corresponding attachments for explanation of any problems.

RCRA QC

Name Mark G. Beck

Date 1/29/92 mab.

QC Check: Holding times

COMMENTS: all samples met holding time requirements

ACTION: none - none needed

sample # constituent value/qual

sample # constituent value/qual

RCRA QC

Name Mark A. Beck

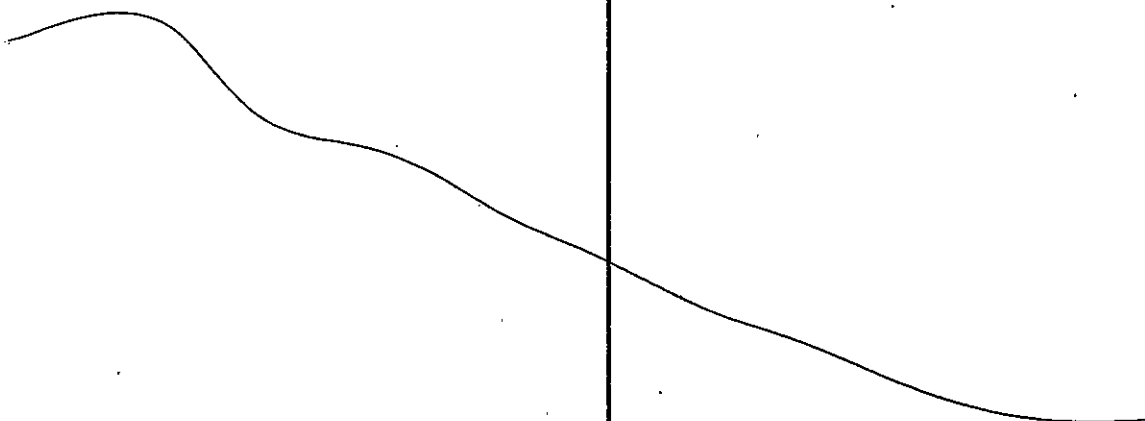
Date 1/29/92 M.A.P.

QC Check: Matrix Spike

COMMENTS: Appropriate matrix spikes were performed.
All spikes had acceptable recoveries.

ACTION: none - none needed.

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



____ of ____

RCRA QC

Name Mark A. Beck

Date

1/29/92 *me*

QC Check: Blanks

COMMENTS: Appropriate blanks were run. All blanks were free from contamination.

ACTION: none - none needed

sample # constituent value/qual

sample # constituent value/qual

of

RCRA QC

Name Marli A. Beck

Date

1/29/92 msb.

QC Check: Duplicate Analyses

COMMENTS: Duplicate analyses were run, as ~~an~~ ~~not~~ ~~in~~ ~~spec~~
The analyses were on a sample. The % recoveries and the
% difference ~~was~~ was acceptable.

ACTION:

none - none needed

sample # constituent value/qual

sample # constituent value/qual

RCRA QC

Name Mark A. Beck

Date 1/29/92 AM 9h

QC Check: Calibrations

COMMENTS: Appropriate start-up calibrations were performed
and were acceptable. ICV and CCV (done as blank spikes)
all had acceptable recoveries.

ACTION: none - none needed

sample #	constituent	value/qual	sample #	constituent	value/qual

of

RCRA QC

Name Mark A. Beck

Date

1/29/92 mab

QC Check: Other

COMMENTS: none

ACTION: none - none needed.

sample # constituent value/qual

sample # constituent value/qual

of

Roy F. Weston, Inc. - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
WESTINGHOUSE HANFORD

DATE RECEIVED: 10/18/91

RFW LOT # :9110L057

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
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BO15C8

TOTAL ORGANIC CARBON	001	W	91LTC140	10/15/91	10/26/91	10/26/91
TOTAL ORGANIC CARBON	001 REP	W	91LTC140	10/15/91	10/26/91	10/26/91
TOTAL ORGANIC CARBON	001 MS	W	91LTC140	10/15/91	10/26/91	10/26/91
TOTAL ORGANIC CARBON	001 MSD	W	91LTC140	10/15/91	10/26/91	10/26/91

BO15C9

TOTAL ORGANIC CARBON	002	W	91LTC140	10/15/91	10/26/91	10/26/91
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BO15D0

TOTAL ORGANIC CARBON	003	W	91LTC140	10/15/91	10/26/91	10/26/91
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BO15D1

TOTAL ORGANIC CARBON	004	W	91LTC140	10/15/91	10/26/91	10/26/91
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LAB QC:

TOTAL ORGANIC CARBON	MB1	W	91LTC140	N/A	10/26/91	10/26/91
TOTAL ORGANIC CARBON	MB1 BS	W	91LTC140	N/A	10/26/91	10/26/91
TOTAL ORGANIC CARBON	MB1 BSD	W	91LTC140	N/A	10/26/91	10/26/91
TOTAL ORGANIC CARBON	MB2	W	91LTC140	N/A	10/26/91	10/26/91
TOTAL ORGANIC CARBON	MB2 BS	W	91LTC140	N/A	10/26/91	10/26/91
TOTAL ORGANIC CARBON	MB3	W	91LTC140	N/A	10/26/91	10/26/91
TOTAL ORGANIC CARBON	MB3 BS	W	91LTC140	N/A	10/26/91	10/26/91



ROY F. WESTON, INC.
Lionville Laboratory


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Jack R. Tuschall, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

10.28.91.
Date



ROY F. WESTON INC.

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1/29/92
md.